# POLYMER CAPACITORS

**Speed up your FPGA design**

<table>
<thead>
<tr>
<th>Lower Height</th>
<th>Higher Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SP-Cap</strong></td>
<td><strong>Hybrid</strong></td>
</tr>
<tr>
<td>Al Chip Type</td>
<td>Al Hybrid Can Type</td>
</tr>
<tr>
<td><strong>POSCAP</strong></td>
<td><strong>OS-CON</strong></td>
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<td>TA Chip Type</td>
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- **Alternative to Tantalum**
  - Super low ESR
- **Miniaturisation**
  - Small case sizes
- **Long lifetime**
  - High ripple current
- **High temperature**
  - High capacitance

The next stage of low ESR capacitors, with high capacitance in small package

- Widest polymer line-up with lowest ESR in the market
- Global leader with local technical support
- Cost optimisation & downsizing of reference solutions
POLYMER CAPACITORS

Speed up your FPGA design

Application Trend
- High processing CPU / FPGA
- Higher mounting density, hot spots
- Longer life at elevated PCB temperature
- High efficiency power supply design

Capacitor Requirements
- Low ESR, high capacitance
- Small size
- High voltage
- Long endurance
- Stable characteristics
- Volume performance

Key Features
- SP-Cap
  - Super low ESR
  - Low profile
- POSCAP
  - Small size
  - High capacitance
- OS-CON
  - High ripple current
  - High voltage (100V)
- Hybrid
  - High temperature
  - Low LC

Example for Input/Output power circuit optimisation

Required Ripple Current (Ir)

\[ I \geq 2.76 \text{ A}_{\text{rms}} \]

\[ I = \sqrt{I^2 + V_{\text{in}}^2} \]

Life Time Extension
- 16V, 82μF
  - Size Ø 5x5.9 mm
  - Ripple current 2A rms
  - Lifetime 5000 h, 105°C
  - (equal to 50.000 h, 85°C)

Hybrid
- 25V, 100μF
  - Size Ø 6.3x7.7 mm
  - Ripple current 2A rms
  - Lifetime 10000 h, 105°C
  - (equal to 40.000 h, 85°C)

Typical Design
- Lytic MLCC
  - 2 pcs
  - Ø 8x10 mm
- Bulk MLCC
  - 9 pcs
  - Area 219.7 mm²

Space & Cost Saving
- SP-Cap
  - 2V, 560μF
  - ESR 3mΩ
  - 1 pc
  - Cost Index 0.23
  - Area 51.4 mm²

- POSCAP
  - each 2.5V, 220μF
  - ESR 15mΩ
  - 3 pcs
  - Area 29.2 mm²
  - Cost Index 0.32

Please contact us for technical support:
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